Increased Capabilities Against Moving and Stationary Targets

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At a Glance

What is it?

- Increased Capabilities Against Moving and Stationary Targets is an Enabling Capability (EC) which addresses an OPNAV validated capability gap. This EC will provide increased target identification range in maritime adverse weather conditions, capability to distinguish targets from non-combatants in a cluttered littoral environment, and the ability to reduce operator workload by increasing seeker / sensor efficiency.

How does it work?

- A Multi-Mode Sensor Seeker (MMSS) will integrate visible, infrared and LADAR (laser radar) sensors.

What will it accomplish?

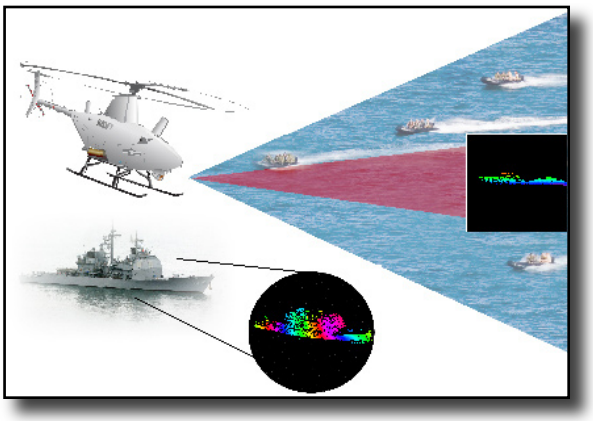
- MMSS will demonstrate functionality for target detection, classification and identification against ships, boats and shore facilities, including ground-based mobile targets. A hierarchy of sensor coverage will provide increased stand-off range for Fire Scout & future weapon systems. DASH's modular design approach to system requirements will be compatible with Tomahawk and other weapon systems for attacking moving or stationary targets in all weather.

Point of Contact

Kenneth Heeke

kenneth.heeke@navy.mil

(703) 696-0431



A Multi-Mode Sensor Seeker (MMSS) will integrate visible, infrared and LADAR (laser radar) sensors. The multi-mode sensor output will be utilized by advanced Automatic Target Recognition (ATR) algorithms. Correlation filter-based ATR efforts, easily applied to LADAR data, offer improved target identification performance. Direct Attack Seeker Head (DASH) is developing low-cost dual-mode seeker utilizing a radar and an imaging infrared focal plan array.

MMSS will provide increased target identification range in clear weather and adverse maritime weather. The increase in the probability of accurate identification of targets will reduce false alarms rates of friendly or neutral objects of interest. A reduction in operator workload will be achieved by wedding automated target recognition algorithms with precise targeting location data.

Currently there is need for weapons capable of attacking moving land targets or capable of providing aim-point selection on maritime targets in adverse-weather. The DASH goal is to provide an adverse-weather, moving target capability to weapons with a low-cost seeker. The DASH seeker intends to add this needed capability to an upgraded Tactical Tomahawk. The modular approach can also potentially support a variety of weapons types such as rockets, JDAM, JSOW, etc.

Research Opportunities:

- Integration of multiple advanced sensors (EO, IR, LADAR) utilizing cooperative optics
- Advanced automatic target recognition capabilities that accurately identify maritime targets at increased stand-off ranges
- Development of a low-cost dual mode (RF, IR) seeker